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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,534	08/20/2001	David A. Grilli	TRW(AP)5727	5816
26294 7590 07/05/2007 TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P. 1300 EAST NINTH STREET, SUITE 1700 CLEVEVLAND, OH 44114			EXAMINER KIM, CHONG HWA	
			ART UNIT 2167	PAPER NUMBER
			MAIL DATE 07/05/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/933,534

Applicant(s)

GRILLI ET AL.

Examiner

Chong H. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-8,11,12,14,15 and 18-28 is/are pending in the application.
- 4a) Of the above claim(s) 19-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-8,11,12,14,15 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5-8, 11, 12, 14, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishijima et al., U.S. Patent 4,738,157 in view of Koseki et al., U.S. Patent 5,702,810.

Nishijima et al. shows, in Figs. 1-4, a steering wheel comprising a rim portion 12, a spoke portion 16, and a foamed elastomer padding material 54, 56 substantially covering the rim portion having a first thickness and covering the spoke portion having a second thickness different from the first thickness, but fails to show the foamed elastomer padding material made of polyolefin polymer having an inner foam layer that is expanded by gasified chemical foaming agent and an outer layer free of interruption by a cell, and a durometer shore A hardness of about 30 to about 90.

Koseki et al. discloses, in Figs. 1-3, a steering wheel (col. 1, line 19) comprising a rim portion (inherent), a spoke portion (inherent), and a weatherable foamed thermoplastic polyolefin elastomer padding material 3 (col. 4, lines 55-65) including an inner portion 3 and an outer portion 4, the inner portion having a cellular structure and a substantially uniform cell density, the outer portion having a continuous external surface free of interruption by a cell (col. 9, line

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54, a non-expanded surface material 4 is equivalent to a surface without any cell), the foamed thermoplastic polyolefin elastomer padding material comprising a gasified chemical foaming agent (a blowing agent as described in col. 8, lines 15-33); wherein the thermoplastic polyolefin elastomer includes a thermoplastic polyolefin polymer, polyethylene or polypropylene; wherein the thermoplastic polyolefin elastomer further includes another thermoplastic elastomer or rubber (col. 4, lines 56-65); wherein the foamed padding material is plasticizer-free (inherent if the material is polyolefin elastomer); wherein the chemical foaming agent comprises an exothermic chemical foaming agent or an endothermic chemical foaming agent, or a mixture thereof (col. 8, lines 15-33); wherein the foamed padding material further includes an additive such as fillers and colorants.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the RIM polyurethane elastomer of Nishijima et al. which is a thermosetting resin with the thermoplastic polyolefin elastomer as taught by Koseki et al. in order to be able to recycle so that material can be saved and reduce pollution, and also in order to produce a cushioning material for obtaining "excellent appearance and a soft feel" as described by Koseki et al. in col. 1, lines 15-20.

As to the matter of the hardness, Koseki et al. discloses in claim 1 that A-hardness according to JIS K6301 should be between 50 to 100. It would have been obvious to a person of ordinary skill in the art that to make the hardness of the polyolefin elastomer of Koseki et al. to meet the durometer shore A hardness requirement between 30 to 90, since such a modification would have involved a mere change in the time and temperature during the hardening process. A

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discovery of optimum ranges within prior art general condition is generally recognized as being within the level of ordinary skill in the art. *In re Aller et al.*, 105 USPQ 233.

As to the matter of the mixture in claims 6 and 14, it would have been obvious to make the thermoplastic polyolefin elastomer of Koseki et al. with a mixture of ethylene-propylene copolymer, ethylene-propylene-dien terpolymer, and polypropylene, since such modification would have involved a mere change in the mixture that is readily available to the public. A selection of known material based on its suitability for the intended use is generally recognized as being within the level of ordinary skill in the art. *In re Leshin*, 125 USPQ 416.

Response to Arguments

3. In response to the applicant's argument that Nishijima et al. fails to show the rim portion two thickness that is different from the spoke portion thickness, it is the Examiner's view that Nishijima et al. clearly shows, in Fig. 4, the spoke 36 having a thickness that is smaller than the thickness of the rim portion 72. Furthermore, if the thickness as recited in the claims is referring to the padding material, Fig. 4 clearly shows the thickness of the padding material 54a that covers the spoke portion 36 being different than the thickness of the padding material 56a that covers the rim portion 72.

4. In response to the applicant's argument that neither prior art, Nishijima et al. nor Koseki et al., teaches or suggests the polyolefin elastomer is recyclable or would reduce pollution, it is the Examiner's position and understanding that any thermoplastic elastomer is commonly known in the field or material science as a recyclable material. The thermoplastic elastomer can be

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melted and reshaped or re-molded whereas the thermosetting elastomer cannot. Therefore, if the elastomer can be recycled, than clearly such practice would reduce pollution.

5. In response to the applicant's argument that Nishijima et al. fails to show the padding material having a substantially uniform cell density since it is silent on such feature, it is agreed that Nishijima et al. is silent in such subject matter. However, it is the Examiner's view that such configuration is shown by Koseki et al. in Figs. 1-3, the padding material 3 having a substantially uniform density.

6. In response to applicant's argument that Koseki et al. fails to teach the padding material that can cover the rim and spoke portions, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Furthermore, Koseki et al. teaches that such padding material can be applied on a steering wheel in col. 1, line 19.

7. In response to applicant's argument that Koseki et al. does not teach the padding material having a substantially uniform cell density, it is Examiner's view that the disclosure in col. 9, lines 34-38 supports such configuration.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

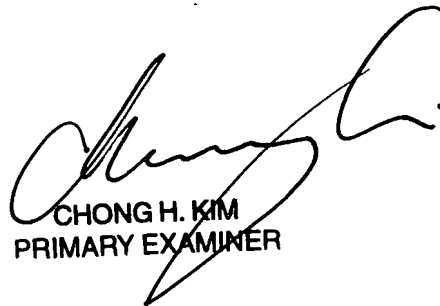
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (571) 272-7108. The examiner can normally be reached on Monday - Friday; 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

chk
June 12, 2007



CHONG H. KIM
PRIMARY EXAMINER